

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT		Docket Number 10020/30501			
Application Number Filing Date November 26, 2003		Examiner Art Unit Not Yet Assigned Not Yet Assigne			
Invention Title BIPOLAR ORGANIC DEVICES		Inventor(s) FORREST et al.			

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450 I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

Signature

Thomas F. Meagher (Reg. No. 29,83

- In accordance with the duty of disclosure under 37 C.F.R. § 1.56 and in conformance with the procedures of 37 C.F.R. §§ 1.97 and 1.98 and M.P.E.P. § 609, attorneys for Applicants hereby bring the following references to the attention of the Examiner. The references are listed on the attached modified PTO Form No. 1449. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom. The filing of this Information Disclosure Statement and the enclosed PTO Form No. 1449, shall not be construed as an admission that the information cited is prior art, or is considered to be material to patentability as defined in 37 C.F.R. § 1.56(b).
- 2. A copy of each patent, publication or other information listed on the modified PTO form 1449 is enclosed, unless otherwise indicated.
- 3. It is believed that no fees are due in connection with this Information Disclosure Statement. However, should any fees be due, the Commissioner is authorized to charge Deposit Account No. 11-0600 for such fees. A copy of this communication is enclosed for charging purposes.

Dated: 123/04

By:

Thomas F. Meagher (Reg. No. 29,831

Customer No. 26646 *26646*

26646
PATENT TRADEMARK OFFICE

Kenyon & Kenyon One Broadway

New York, NY 10004 212-425-7200 (Telephone)

212-425-5288 (Facsimile)

© Kenyon & Kenyon 2003



SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT PTO-1449

DOCKET NO. 10020/30501	SERIAL NO. 10/721,072
APPLICANT Forrest et al.	
FILING DATE November 26, 2003	GROUP

U. S. PATENT DOCUMENTS

EXAMINER INITIAL	PATENT/ PUBLICATION NUMBER	PATENT/ PUBLICATION DATE	NAME	CLASS	SUBCLASS	FILING DATE
	5,247,190	September 21, 1993	Friend et al.			4
	5,703,436	December 30, 1997	Forrest et al.			
	5,707,745	January 13, 1998	Forrest et al.			
	5,834,893	November 10, 1998	Bulovic et al.			
	5,844,363	December 1, 1998	Gu et al.			
•	6,013,982	January 11, 2000	Thompson et al.			
<i>i</i>	6,087,196	July 11, 2000	Sturm et al.			
	6,091,195	July 18, 2000	Forrest et al.			
	6,097,147	August 1, 2000	Baldo et al.			
	6,294,398	September 25, 2001	Kim et al.			
	6,303,238	October 16, 2001	Thompson et al.			
	6,337,102	January 8, 2002	Forrest et al.	ļ		
	6,468,819	October 22, 2002	Kim et al.			
	2003/0230980	December 18, 2003	Forrest et al.			

FOREIGN PATENT DOCUMENTS

EXAMINER	DOCUMENT						LATION
INITIAL	NUMBER	ÐATE	COUNTRY	CLASS	SUBCLASS	YES	NO

OTHER DOCUMENTS

EXAMINER INITIAL	 AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.
	Huang et al., "Low-Voltage Organic Electroluminescent Devices Using pin Structures," Appl. Phys. Lett. 80, 139 (2002)
	C. Shen et al., "Electronic Structure, Diffusion, and p-doping at the AuF ₁₆ CuPc Interface," Journal of Applied Physics, Vol. 90(9), 4595-4554, (2001)
	Pfeiffer et al., "Electrophosphorescent p-I-n Organic Light-Emitting Devices for Very-High-Efficiency Flat-Panel Displays," Adv. Mater. 14, 1633
	Forrest, "Ultrathin Organic Films Grown by Organic Molecular Beam Deposition and Related Techniques," Chem. Rev. 97, 1793 (1997)
	Gao et al., "Electronic Structure and Current Injection in Zinc Phthalocyanine Doped with Tetrafluorotetracyanoquinodimethane: Interface Versus Bulk Effects," Org. Electron 3, 53 (2002)

1.	P	E	100	1
(°	MAL	se	2004	KOPENER
	/ AB41	NED		T

AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.
Zhou et al., "Enhanced Hole Injection into Amorphous Hole-Transport Layers of Organic Light-Emitting Diodes Using
Controlled p-Type Doping," Adv. Funct. Mater. 11, 310 (2001)
Kido et al., "Bright Organic Electroluminescent devices Having a Metal-Doped Electron-Injecting Layer," Appl. Phys. Let 73, 2866 (1998)
Huang et al., "Influence of the thickness and doping of the emission layer on the performance of organic light-emitting
diodes with PiN structure," J. Appl. Phys. 93, 838 (2003)
Werner et al., "Pyronin B as a Donor for n-type Doping of Organic Thin Films," Appl. Phys. Lett. 82, 4495 (2003)
Hill et al., "Organic Semiconductor Interfaces: Electronic Structure and Transport Properties," Appl. Surf. Sci. 166, 354 (2000)
Fujimoto et al., "Electronic Structure of bis [1, 2, 5] thiadiazolo-p-quinobis (1,3-dithiole) (BTQBT) studied by ultraviolet photoemission spectroscopy, Chem. Phys. 165, 135 (1992)
Xue et al., "Organic Thin-Film Transistors Based on bis (1,2,5-thiadiazolo)-p-quinobis (1,3-dithiole)," Appl. Phys. Lett. 79, 3714 (2001)
Blochwitz et al., "Interface Electronic Structure of Organic Semiconductors with Controlled Doping Lebels," Org. Electro 2, 97 (2001)
Gao et al., "Controlled p doping of the hole-transport molecular material N,N'-diphenyl-N,n'-bis (1-naphthyl)-1,1'-biphenyl-4,4'-diamine with tetrafluorotetracyanoquinodimethane," J. App. Phys. 94, 359 (2003)
Xue et al., "Characterization of bis(1,2,5-thiadiazolop-quinobis(1,3-dithiole) thin films grown by organic molecular bean deposition," Org. Electron. 2, 143 (2001)
Takada, et al., "BTQBT (bis-(1, 2, 5-thiadiazolo)-p-quinobis(1, 3-dithiole)) Thin Films; A Promising Candidate for High Mobility Organic Transistors," Jpn. J. Appl. Phys. 41, L4 (2002)
Pfeiffer et al., "Controlled Doping of Phthalocyanine Layers by Cosublimination with Acceptor Molecules: A Systematic Seebeck and Conductivity Study," Appl. Phys. Lett. 73, 3202 (1998)
Maenning et al., "Controlled p-type doping of polycrystalline and amorphous organic layers: Self-consistent description of conductivity and field-effect mobility by a microscopic percolation model," Phys. Rev. B 64, 195208 (2001)
Schmechel, "Hopping transport in doped organic semiconductors: A theoretical approach and its application to -pdoped zinc-phthalocyanine," J. Appl. Phys. 93, 4653 (2003)
Scholz et al., "Resonant Raman spectroscopy of 3,4,9,10-perylene-tetracarboxylic-dianhydride epitaxial films," Phys. Rev. 61, 13659 (2000)
Pfeiffer et al., Adv. Solid State Phys. 39, 77 (1999)
U.S. Patent Application Serial No. 09/931,948 to Lu et al., filed —
U.S. Patent Application Serial No. 10/233,470

EXAMINER		DATE CONSIDERED
EXAMINER: Initial	if citation considered, whether or not citation is in conformance with M.P.E.P. 609: draw	line through citation if not in conformance and

not considered. Include copy of this form with next communication to applicant.